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Financing Your Energy-Efficiency Upgrade

Energy-efficiency projects are unique from most other business investments in that they provide an immediate and predictable positive cash flow resulting from lower energy bills. This capability allows them to be financed with both familiar and unconventional financing products.

This document discusses these payment and financing options, and suggests evaluation criteria to help you select the option that is right for your organization. While the right financing option will depend upon your debt capacity, in-house expertise, and risk tolerance, there are viable options for virtually any type of organization. ☆

Payment and Financing Options

The payment and financing options discussed below include:

- Purchasing equipment and services
- Leasing
- Performance contracting

Purchasing Equipment and Services

Cash. A cash purchase is the simplest method for financing energy-efficiency improvements. A cash purchase makes sense if your organization has cash reserves and a strong balance sheet. The advantage of a cash purchase is that all cost savings realized from the upgrade are immediately available to your organization. Additionally, the depreciation of the equipment becomes a tax deduction. The disadvantage of a cash purchase is the loss of opportunities associated with not having that capital available for other investments.

Generally, relatively inexpensive, simple efficiency measures that are likely to pay for themselves in about a year are purchased with cash. Large complex projects are often funded differently.

Cash Purchase	
Balance sheet:	on balance sheet
Initial payment:	100%
Payments:	none
Ownership:	owner
Tax deductions:	depreciation
Performance risk:	owner

Loan. Lenders may require up to a 40 percent down payment on loans for energy projects. Generally, a high risk loan will have less leverage (ratio of debt to equity for the project), a higher interest rate, and a shorter term of debt. As a borrower, you may put up business or personal assets as security for the loan. Your borrowing ability will depend on your organization's current debt load and credit worthiness. Loan payments can be structured to be slightly lower than projected energy savings. In this financing situation, you bear all the risks of the project and receive all the benefits.

Loan	
Balance sheet:	on balance sheet
Initial payment:	down payment
Payments:	fixed
Ownership:	owner
Tax deductions:	depreciation, interest
Performance risk:	owner

Capital Lease	
Balance sheet:	on balance sheet
Initial payment:	none
Payments:	fixed
Ownership:	owner
Tax deductions:	depreciation, interest
Performance risk:	owner

Leasing

You may procure your energy upgrade through leasing to spread out the term of payments. Lease payments are usually lower than loan payments. Laws and regulations for equipment leasing are complex and change frequently so be sure to consult your financial executive, attorney, or auditor before entering into a lease agreement.

Capital Lease. Capital leases are installment purchases of equipment. Little or no initial capital outlay is required up front. With a capital lease, you own the equipment and may take deductions for depreciation and for the interest portion of payments. A capital asset and associated liability will be recorded on your organization's balance sheet.

Based on the criteria defined by the Financial Accounting Standards Board (FASB) Statement No. 13, a lease meeting one or more of the following criteria qualifies as a *capital* lease:

- The lease transfers ownership of property to customer at end of lease term
- The lease contains a bargain purchase option
- The lease term covers 75 percent or more of the estimated economic life of the equipment
- The value of the lease equals or exceeds 90 percent of the fair market value of the equipment at the beginning of the lease.

If you work for a governmental organization, you may be eligible for a tax-exempt capital lease. Because the lessor does not pay taxes on the interest from these leases, the rates are lower than typical market rates. For municipal organizations that can undertake new debt, tax-exempt capital leases can be very attractive.

Operating Lease. Under an operating lease the lessor owns the equipment. It is, in effect, "rented" (leased) to your organization for a fixed monthly fee during the contract period. The lessor claims any tax benefits associated with the depreciation of the equipment. At the end of the contract term, you can purchase the equipment at fair market value (or at a predetermined amount); renegotiate the lease; or have the equipment removed.

To meet the FASB definition of an *operating* lease, the lease term must be less than 75 percent of the equipment's economic life and the total value of the lease payments must be less than 90 percent of the fair market value of the equipment at the start of the lease. If the equipment has residual value as used equipment, it may be eligible for an operating lease.

Discuss the project's qualifications with a financial decisionmaker before entering into an operating lease for energy-efficiency equipment.

Operating Lease	
Balance sheet:	off balance sheet
Initial payment:	none
Payments:	fixed
Ownership:	lessor
Tax deductions:	lessor
Performance risk:	lessor

Performance Contracting

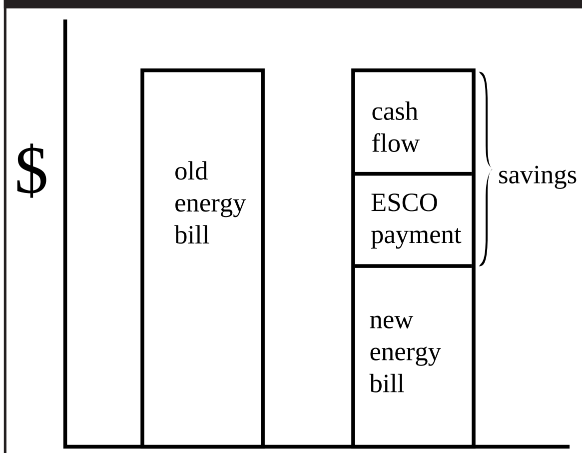
As you research financing options for your project, you will certainly hear about performance contracting. A performance contract may be the preferred financing option if your organization wants to keep the upgrade project off its balance sheet. This type of contracting can be complex, but is becoming increasingly common.

A performance contract is one in which payment for a project is contingent upon its successful operation. For an energy-efficiency upgrade, services are rendered in exchange for a share of the future benefits of the project.

A performance contract can be undertaken with no upfront cost to the building owner and is paid for out of energy savings. The service provider, usually an energy services company (ESCO), obtains financing and assumes the performance risks associated with the project. The financing organization owns the upgraded equipment during the term of the contract, and the equipment asset and debt do not appear on your balance sheet. Financing for performance contracts relies little on the financial strength of the building owner, but is based on the cost savings potential of the project.

Through performance contracting, any of the financing options discussed above can be negotiated to guarantee that, as the customer, you receive the estimated cost savings from the energy-efficiency upgrade. Performance contracting can be applied to purchases or leases.

Performance Contract



After the energy-efficiency upgrade, the funds that were used to pay the energy bill cover the new energy bill and the payment to the ESCO, and generate positive cash flow for the customer.

In a performance contract, an outside party, usually an ESCO, provides a services package. This package can range from a simple audit, installation, and monitoring to full operation of a facility's energy systems. The ESCO typically conducts an energy audit, designs the cost-effective projects, obtains bids, manages the construction, guarantees energy savings, obtains financing, and maintains the energy-saving capital improvements. You use resulting energy savings to pay for the improvements.

Performance contracts are sometimes referred to as "shared savings" or "paid from savings" contracts. These terms refer to the manner in which payment is made for the upgrade.

With shared savings, the dollar value of the measured savings is divided between you and the ESCO. If there are not any cost savings, you pay the energy bill and owe the contractor nothing for that period. The percentage distribution of the savings between the ESCO and the customer are agreed upon in advance and documented in the performance contract. At the end of the contract, ownership transfers to the building owner as specified in the contract. You may either purchase the equipment at fair market value or simply assume ownership of the equipment paid for during the contract term.

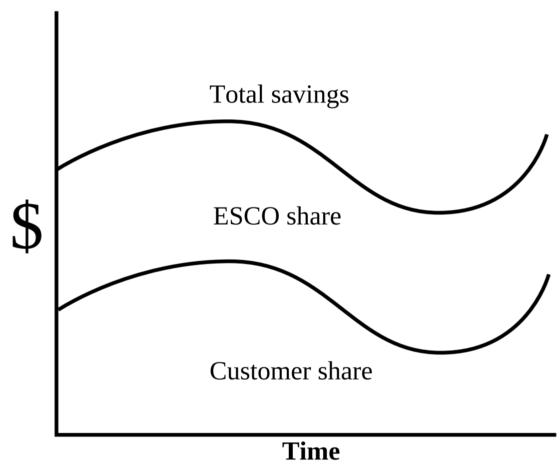
Almost all energy-efficiency projects are paid for from the savings created by reduced energy usage. Thus, the term "paid from savings" can be used for several different types of energy contracts. Here it is being used to refer to another performance contract payment whereby you pay the ESCO a predetermined amount each month (e.g., an amount equal to 80 percent of the expected energy bill before the

Performance Contracting

Balance sheet:	off balance sheet
Initial payment:	none
Payments:	variable or fixed
Ownership:	contractor
Tax deductions:	contractor
Performance risk:	contractor

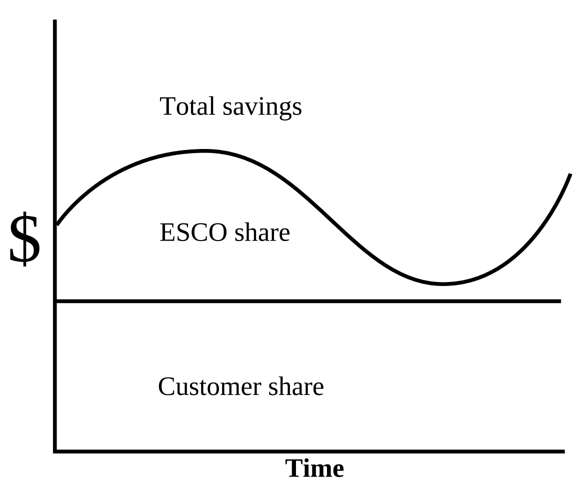
upgrade). The ESCO pays the energy bill and retains the difference between your payment and the actual bill (e.g., the actual bill may be only 60 percent of the expected bill). In this case, if there is an increase in energy usage, the ESCO must make up the difference between your payment and the actual bill.

Shared Savings



With shared savings, the customer and the ESCO divide the cost savings according to their contract agreement.

Paid From Savings



In this arrangement, the customer's savings are fixed; the ESCO's payments fluctuate according to actual savings.

The diagrams illustrate the distribution of the cost savings under two scenarios. The specific payment arrangements between you and the ESCO are specified in your contract.

Performance contracts are inherently complex and take a long time to negotiate and implement. The contracts usually:

- Specify detailed work for individual facilities
- Span approximately 5–8 years
- Involve large sums of capital
- Cover a wide range of contingencies
- Require significant expertise in law, engineering, and finance

For an ESCO and financier to make a commitment to an energy-efficiency project, the potential for savings must be substantial. Performance contracts are usually arranged for facilities with annual energy costs over $150,000. However, smaller projects may be good candidates depending on the project specifics.

Entering into a performance contract is like forming a partnership with an ESCO. You are arranging a complex, long-term relationship through a contractual agreement. It is important for you to remain in close communication with the ESCO during contract negotiations and project implementation. Build contingencies into the contract for any potential issues you can anticipate. For example, an operations change such as adding a piece of manufacturing equipment or changing operating hours can have a significant impact on energy use. By incorporating responses to likely changes up front, you can avert major operational or contractual problems down the road.

A performance contract is a major commitment for you and the ESCO. As a financing tool, it offers the benefits of low-risk capital improvements off the balance sheet. Although there are not initial payments to the contractor, you should expect to spend time and resources providing data the ESCO will need to perform the audit and establish a baseline from which to estimate energy savings. If you wish to select an ESCO through a competitive procurement, you will have to prepare requests for qualifications or proposals and evaluate the submittals. Defining all the terms and conditions of the contract can be a lengthy process and may require hiring independent engineers or other professionals to review the contract on your behalf. The business of performance contracting is growing, so there is an expanding pool of competent and capable service providers available to you. Although the contracting process is complex, it creates an opportunity for organizations with limited debt capacity or capital resources to undertake profitable energy-efficiency projects that would otherwise not be implemented.

Guaranteed Savings Insurance

Guaranteed savings insurance is another way of reducing risk to you. This option guarantees that energy cost savings will exceed an established minimum dollar value. Typically this guaranteed minimum equals the financing payment for the same period to ensure a positive cash flow during the financing term.

Like any insurance policy, you'll pay a premium that compensates the guarantor for the performance risk and covers monitoring costs. This premium is added to your loan or lease payment and the guarantor will maintain and monitor the performance of your upgrade. The supplier, installer, or ESCO selling the upgrade usually offers this guarantee. ☆

Evaluation Factors

Finding the right financing vehicle for your project requires a thorough evaluation of your options. The following factors will help define your organization's business profile. This will enable you to select the financing option that best meets your organization's objectives.

- Balance sheet
- Initial payment
- Payments
- Ownership
- Tax deductions
- Performance risk

A brief description of each follows.

Balance Sheet

If your organization is near the level of debt permitted by your lenders, you may not be able to undertake additional debt on your books without violating certain covenants. There are, however, methods that enable a company that cannot assume more debt to proceed with an upgrade and take advantage of the financial benefits.

Initial Payment

A large initial capital outlay may be an obstacle for some organizations planning energy-efficiency upgrades. If you have large capital reserves or are planning a small project, it makes sense to pay for the project with cash. Then all the cost savings from the project will be immediately available to you to offset the original investment. There are financing options that can move a project forward with no initial capital outlay from you, the customer. If capital resources are tight, you may want to consider a performance contract.

Payments

Your goal is to obtain financing at a minimum cost to your organization. However, benefits such as off-balance-sheet financing may justify paying more for your borrowed money. The general advantage of energy-efficiency investments is that even with performance contracts, which tend to be more costly because of the amount of monitoring and verification involved, you are guaranteed to receive financial benefits immediately upon completion of the project. At the end of the contract term, those savings are fully available to you.

Ownership

If you are the owner of your energy-efficiency upgrade equipment, you are entitled to the benefits of ownership, such as tax deductions for depreciation or interest payments. You are also liable for any performance risk associated with the equipment.

Tax Deductions

As an equipment owner, your business is entitled to any tax benefits such as depreciation and deductions for loan interest. If you finance your upgrade off the balance sheet, you will not be eligible for tax benefits.

Performance Risk

There is risk associated with any investment. Energy-efficiency upgrades are generally low-risk investments because they apply proven technologies with long records of performance. However, the financing option you choose will affect who bears the risk of performance failure.

Performance risk of energy-efficiency upgrades depends on the accuracy of the assumptions such as maintenance, cost of energy, and occupancy. Lighting upgrades are typically considered a lower risk due to more certainty in managing these assumptions than HVAC investments.

More Savings Opportunities

When you begin your search for project capital, begin by bargain hunting for special programs that support energy efficiency. Every organization planning an energy-efficiency upgrade should investigate the availability of cost-reducing measures such as those below:

- Utility incentives
- State assistance

Utility Incentives

Utilities often provide financial incentives for energy-efficiency upgrades through rebates, fuel switching incentives, low-interest loans, and energy audits. Utilities are becoming more customer-service oriented and many provide financing or other energy services. Check with your local utility to learn what programs are available.

State Assistance

Some states offer financial assistance to nonprofit or small businesses for operating improvement upgrades. Contact the state agency that monitors the type of service provided by your organization to inquire about these opportunities. For example, Florida's Energy Loan Program was created to motivate small business owners to evaluate their total energy usage and implement energy conservation measures. Funding may be available through the State Energy Programs, energy conservation programs supported by the U.S. Department of Energy.

Summary of Options

Whether your energy-efficiency project involves small improvements or a complete system upgrade, there is a suitable financing option for you. A simple cash purchase yields immediate benefits to the customer and is a straightforward transaction. It is well suited for small or low-risk upgrades. Performance contracting is the most complex type of arrangement but offers the customer the benefit of risk protection. It is also the most costly financing option because of the amount of monitoring and verification required. However, even this more expensive alternative yields a positive cash flow for the customer immediately upon installation. Regardless of your organizational requirements or constraints, there is a financing option available to help you realize the profitability of energy-efficiency projects.

ENERGY STAR Buildings Tools

EPA offers the following software tools to assist in analyzing the economic and energy impacts of your upgrades.

QuikFan:	Analyzes upgrades to variable air volume systems with variable speed drives, high efficiency motors, and static pressure resets.
QuikChill:	Simulates the performance of centrifugal chiller plants to analyze chiller retrofit and replacement upgrades.
QuikPlan:	Helps plan, organize, and track the long-term financial and energy effects of projects within multiple facilities.
ProjectKalc:	Analyzes the upgrade costs, energy, demand, and maintenance savings of user-specified lighting upgrade solutions on both a fixture-specific and project-wide basis.

Summary of Options					
Evaluation Factor	**Cash Purchase**	**Loan**	**Capital Lease**	**Operating Lease**	**Performance Contract**
Balance sheet	on	on	on	off	off
Initial payment	100%	down payment	none	none	none
Payments	none	fixed	fixed	fixed	variable or fixed
Ownership	owner	owner	owner	lessor	contractor
Tax deductions	depreciation	depreciation, interest	depreciation, interest	lessor	contractor
Performance risk	owner	owner	owner	lessor	contractor

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For More Information:

To learn more about EPA's Energy Star Buildings Program, call the Energy Star Hotline at 888–STAR–YES.

To order related publications call 888–STAR–YES or fax your request to 202–775–6680.

Visit our Web site at: http://www.epa.gov/buildings.html

Publication:	Reference Number:
• Business Analysis for Energy-Efficiency Investments	54009C
• Introducing Your Company's Newest Profit Center—Energy Optimization	54009
• Increasing Productivity Through Energy-Efficient Design	58215
• Questions and Answers: Energy Star Buildings	28210
• Energy Star Buildings Case Study Pack	19210

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